



## Justification of the Clinical use of Dentlight Glassy onenery Cement for the Treatment of Caries of Teeth in Children

1. Кохоров Мансуржон Кодирович

Received 29<sup>th</sup> Nov 2021,  
Accepted 31<sup>st</sup> Dec 2021,  
Online 21<sup>st</sup> Jan 2022

<sup>1</sup> Department of Hospital and Clinical  
Dentistry Andijan State Medical Institute

**Abstract:** The article describes the unusual use of glass ionomer cement "Dent light" for the treatment of dental caries in children. The difficulty of treating dental caries seems to be one of the most important in dentistry. At the same time, our researchers have found that the method of boundary fitting of seals made of glass ionomer cement "Dent light" modified with silver fluoride is considered more effective.

**Key Word:** caries, dent light treatment, children.

Currently, the significance of healing caries of teeth in children of the early and preschool year is determined by the noble prevalence and intensity of the disease, accompanied by a huge number of complications and the growth of infant population in dental support [1,3,4]. The healing of caries in children of the early and preschool year is united with close problems predetermined not exclusively by the anatomy-physiological unusualness of snow teeth, however, and the complexity of the execution of many manipulations. Mobility of Bormashin, the need to do the conditions of the Eskulap are presented by the principal of refusal from the treatment of teeth [2,3]. However, progressive technologies for the preparation of categorical teeth manufactures, which is counted without a traumatic method, are allowed to adapt less invasive interventions in children [2,5].

The recipe without traumatic rehabative therapy (A.) is the most coasting entrance to the caries of caries of teeth, some are covered in the removal of categorical tooth manuffs, spoiled by caries, manually with support for specific devices and further filling of these branches of cement and with all this does not require regional anesthesia [ 2.5]. Progressive sealing materials arrive on this technique to this technique, what kind of tremendous category are drawn up with new, promptly put into practice glassy onenery cements (SICs), which brings their extensive use in infant dentistry [1,3,4,5].

Target. Unusualness of the maintenance and treatment of caries of teeth in children of classical and atraumatic technology using Glass Ironomer Cement "Dent Light".

Materials and methods. We conducted a comprehensive survey of 110 children aged 2 to 6 years. The distribution of children by sex and age is presented in Table 1.

Paul	Age				
	2-3 years	3-4 years	4-5 years	5-6 years	TOTAL
Boys	8	13	16	19	56
Girls	10	16	12	16	54

<b>TOTAL</b>	<b>18</b>	<b>29</b>	<b>28</b>	<b>35</b>	<b>110</b>
--------------	-----------	-----------	-----------	-----------	------------

The study was conducted on the basis of the Department of Hospital Dentistry of the dental polyclinic of Andijan. The ancestors were informed about the goals of the upcoming scientific research and gave their voluntary consent to the participation of children in it.. The medical certificate included a survey, investigation of the patient's lamentations, anamnesis of life and anamnesis of the disease. Close attention was paid to the presence or absence of generalized somatic pathology, feeding abnormalities and personal oral hygiene. Impartial evidence was connected to the control of dermatological integuments, slimy shell and dentition. By means of probing, the position of categorical dental manufactories, the boundary junction of fillings, the depth of carious cavities, the saturation and significance of dentin were considered.

Children, after examination, were diagnosed with mediocre caries. In rare cases, patients showed claims of minor torment during the method of eating, the iss is large. Only after the pretext of mediocre caries, 120 teeth were sealed, 51 of them with Dent Light glass ionomer cement (subgroup I) and 69 with Dent Light material modified with silver fluoride (subgroup II). During the oral cavity sanitation in both groups, the effect of children during the preparation of carious dental manufactories was evaluated after the pretext of mediocre caries: using classical technology (with the support of a drill)- in 25 children and atraumatic production after the ART technique - 85 children.

The action of the baby was considered after three criteria: 1). Good: the youngsters are contact, they trust the doctor, as if they are sitting and opening their mouths. 2).Satisfactory: the youngster agrees to contact, as if he sits and opens his mouth himself, but feels fear, cries. Persuasions are asked to carry out the healing. 3).Unsatisfactory: the youngsters do not agree well for contact, they do not sit well and discover the mouth, for full-fledged healing, the support of guardians and junior charitable staff is asked. In category II children diagnosed with mediocre cariosis, the properties of fillings made of glass ionomer cement "Dent light" — I subgroup and "Dent light" modified with silver fluoride —II subgroup were criticized in terms of 6 months, 1 year and 2 ages after the application of fillings. 3, 6 and 12 months after treatment, during control examinations of patients, a qualitative assessment of the results of filling was carried out according to the following criteria, such as the anatomical shape of the seal and the assessment of the marginal fit.

The condition of the filling material in the oral cavity was assessed using a dental mirror or visually. Disturbance of condition and quality may be associated with properties such as solubility, shrinkage and fluidity. There are the following stages of determining the condition of the seal:

- A- Seal perfectly retains its anatomical shape;
- B- The shape of the seal has been changed, the dentin or lining has not been changed;
- C- Loss of material, with exposure of dentin or lining.

To determine the edge fit of the filling material, we used the method of visual examination and probing. The development of the pathological process was evidenced by the tactile sensation of the transition from the filling to the tooth and back. The assessment of regional adaptation was carried out according to a system of clinical criteria, which were offered four categories:

A - Alfa, B - Bravo, C - Charlie, D - Delta.

A - the absence of a visually detectable defect along the "tooth-seal" border, or the presence of a minor defect, during instrumental examination of which the probe only "catches" or smoothly passes from the seal to the tooth.

C - the presence of a clear gap between the walls of the tooth and the filling, which does not extend deeper than the enamel-dentine border.

C - the spread of the defect to the dentin or the base of the seal.

D — mobility, breakage and loss of the seal.

Results and their discussion. In the first team (traditional dissection), the majority of children (70%) had an unsatisfactory effect already on the first visit. Excellent effect was found only in 10% of children, mediocre - in 20%.

Criticism of the actions of children about the sanitation of the oral cavity with the use of the classical technique. According to the implementation of rehabilitation using classical technology, the abundance of children with unsatisfactory effects was modified slightly, but finally, after 2 ages, the disposition to heal the element by car increased substantially: through 6 months - 80%, 12 months - 85%, through 2 years- 90%. An impressive reduction in the number of children with a good effect was registered by 6 months — 5%, by 1 and 2 ages, the indicators were the same. Mediocre action by 6 months represented 15% of children, by 1 age 10% and after 24 months — went down to 5%. Compared with the traditional method, the use of the ART order already in the first hearing gave the best results, so how good the action was now demonstrated in 79.25% of cases. With each visit, the abundance of children increased and reached 84% - by 6 months, by a year - 85.42%, by 2 ages - 94.5% of cases.

The abundance of children with a satisfactory effect of about ART technology composed 15% at the first hearing, did not change after 6 months, and after 1 year and 2 years - 14.64% and 2.5%, respectively. A bad action was tracked exclusively at the first hearing - 7.12% of children, apparently, this is strongly associated with a negative attitude combined with a dentist appointment.

Criticism of the actions of children about the sanitation of the oral cavity with the use of the classical technique. According to the implementation of rehabilitation using classical technology, the abundance of children with unsatisfactory effects was modified slightly, but finally, after 2 ages, the disposition to heal the element by car increased substantially: through 6 months - 80%, 12 months - 85%, through 2 years- 90%. An impressive reduction in the number of children with a good effect was registered by 6 months — 5%, by 1 and 2 ages, the indicators were the same. Mediocre action by 6 months represented 15% of children, by 1 age 10% and after 24 months — went down to 5%. Compared with the traditional method, the use of the ART order already in the first hearing gave the best results, so how good the action was now demonstrated in 79.25% of cases. With each visit, the abundance of children increased and reached 84% - by 6 months, by a year - 85.42%, by 2 ages - 94.5% of cases.

The abundance of children with a satisfactory effect of about ART technology composed 15% at the first hearing, did not change after 6 months, and after 1 year and 2 years - 14.64% and 2.5%, respectively. A bad action was tracked exclusively at the first hearing - 7.12% of children, apparently, this is strongly associated with a negative attitude combined with a dentist appointment.

The medical assessment of the condition of the seals was deceived in the II team of patients. In subgroup I, 100% of the seals were examined for six months. The anatomical pattern was preserved and corresponded to aspect A. The patients did not present lamentations. The percussion of the sealed teeth was painless. After 12 months, the patients did not present lamentations. Of the fillings installed after the pretext of mediocre caries, 94.74% were examined after Class I and 88.9% after Class II. Among the seals installed according to Class I, in 67.6% of observations, the safety of the anatomical status of the seals was suitable for aspect A; in 25% of cases, the ratio of the seal to aspect B was

found (the shape of the seal has changed, the dentin or lining is not exposed). Seals installed in Class II met aspects A and B in 69.5% and 22.8% of cases, respectively.

Through 2 ages, 85.14% of fillings were examined after Class I and 79.8% after Class II. During the inspection, it was found that 57.3% of the seals in the I cash register and 29.1% in the II class, the position was suitable for aspect A; in 16.6% and 36.8% for aspect B; well, in 16.6% and 17.17% for aspect C. With all this, patients showed claims for significance through each of the variants of stimuli, the anatomical pattern of the seal was found to be broken. Criticism of the anatomical status of fillings made of glass ionomer cement "Dent light" (I subgroup).

As a result of medical observations in the II subgroup, 100% of fillings made of glass ionomer cement "Aquion" ART, modified with silver fluoride, were examined for 6 months. All the sealed cavities of classes I, that way and II after (according to Black) were preserved, patients did not show complaints, in 100% of cases the anatomical pattern of the seals suited aspect A (the seal exclusively protects its anatomical shape). After 1 year, 83.8% of Class I seals (Black) and 94.11% of Class II seals (Black) were examined. Yes, patients did not present lamentations for all possible variants of stimuli, percussion is painless, the anatomical pattern of the seal was suitable for aspect A. 80% of class I seals (according to Black), and 90.5% of the second class (according to Black) were examined by 2 ages. It was found that in 75% of Class I and 83.5% of class II (according to Black), the position of the seals was suitable for aspect A, and in 5% and 6.8% for aspect B. Criticism of the anatomical status of fillings made of glass ionomer cement "Dent light" modified with silver fluoride (group II).

Medical investigations of the boundary fit of fillings made of glass ionomer cements "Dent light" and "Dent light" modified with silver fluoride were deceived by 6, 12 and 24 months of observations. After 6 months of observations, the results of the medical examination of the boundary fit of the seals in subgroup I showed that in 100% of cases, damage to the boundary fit was not observed in both classes I and II (according to Black). After 12 months, damage to the boundary fit was shown, which was suitable for aspect B (the probe is delayed when moving, the tested gap is consumed, into which the probe seeps, dentin and gasket are not exposed) collected 22.8% of Class I cases and 10.5% of Class II cases (according to Black). When examined by 2 ages in subgroup I, an impressive modification was recorded after the entire edge between the seal and the cavity wall with a hit in the direction of the pulp, in 13.6% and 13.78% of cases, which corresponds to aspect C.

As a result of the medical investigation of the boundary fit of fillings made of glass ionomer cement "Dent light", the basis of the microhybrid composite "Dentlight" consists of: "Charisma Diamond" - "Heraeus kulzer", Germany high-strength polymer matrix containing Bis-GMA, UDMA, TEGDMA and other oligomers; radiopaque nanofill (80-85 wt.% or 62-65 volume.%), which is a combination of modified barium boralum silicate clusters (0.1-3 microns) and nanoscale silicon dioxide (5-75 nm), which allows achieving optimal results in a combination of manufacturability, strength and aesthetics of the material.

The microhybrid composite cures under the action of light in the wavelength range of 400-500 nm., has high strength, increased color stability and convenient plasticity, which makes it easy to model.

#### Literature.

1. Sushchenko A.V. The probability of caries in preschool children when detecting STR. MUTANS / E. O. Alyoshina, O. V. Chuchupal // Bulletin of New Medical Technologies. - 2012. - Vol.19.- No. 2. - pp. 132-134.
2. Sushchenko A.V. Advantages of the atraumatic method of dental caries treatment in children of early and preschool age, using glass ionomer cement modified with silver fluoride/ N. V.

- Kalinichenko, S. N. Yudenkova.// System analysis and management in biomedical systems. 2014. — T. 13, № 1. — P. 150-154.
3. Sushchenko A. V. Study of the properties of glass-ionomer cement modified with fluoride silver / N. V. Kalinichenko, L. N. Polyakov, G. G. Urusova, J. V. Vecherkina, E. Y. Kaverin// "Innovations in medicine" materials of the sixth international youth scientific conference dedicated to the 80th anniversary of the Kursk state medical University. - 2014. - pp. 275-279.
  4. Pat. 2463034 RF, IPC A61K6/02 (2006.01), A61K6/04 (2006.01). Composition for filling teeth / L. N. Plotnikov, A.V. Sushchenko, N. V. Kalinichenko, S. N. Yudenkova, L. N. Serdyukova. - No. 2011139394/15; application 28.09.2011; publ. 10.10.2012. - Bul. No. 28.
  5. Khoshchevskaya I. A. Atraumatic restorative treatment of dental caries with hand tools Trimex (LM - instruments) / I. A. Khoshchevskaya // Dentistry today. - 2010. - No. 7. - p. 23.

